

<b>AMENDMENT OF SOLICITATION/ MODIFICATION OF CONTRACT</b>				CONTRACT ID CODE		PAGE 1 OF 1	
2. AMENDMENT/MODIFICATION NO. <b>M044</b>		3. EFFECTIVE DATE <b>10/1/05</b>		4. REQUISITION/PURCHASE REQ. NO. <b>N/A</b>		5. PROJECT NO. (If applicable) <b>QA:NA</b>	
6. ISSUED BY <b>U.S. Department of Energy Office of Repository Development (ORD) 1551 Hillshire Drive, M/S 523 Las Vegas, NV 89134</b>		7. ADMINISTERED BY (If other than Item 6) <b>U.S. Department of Energy Office of Repository Development (ORD) 1551 Hillshire Drive, M/S 523 Las Vegas, NV 89134</b>		CODE		CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No. Street, county, State and ZIP: Code) <b>Booz-Allen &amp; Hamilton. Inc 8283 Greensboro Drive McLean, Virginia 22102-3838</b>				<input checked="" type="checkbox"/> 9A. AMENDMENT OF SOLICITATION NO.  <input type="checkbox"/> 9B. DATED (SEE ITEM 11)  <input checked="" type="checkbox"/> 10A. MODIFICATION OF CONTRACT/ORDER NO. <b>DE-AC28-02RW12152</b> <input type="checkbox"/> 10B. DATED (SEE ITEM 13) <b>June 16, 2002</b>			
CODE						FACILITY CODE	

### 11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning one (1) copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATA SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and data specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**N/A**

### 13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

(✓)	A.	THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.	
	B.	THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).	
	C.	THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:	
<b>X</b>	D.	OTHER Specify type of modification and authority <b>Unilateral modification IAW contract clause H.20 "Ordering Procedure"</b>	EXECUTED COPY

E. IMPORTANT: Contractor **X** is not, ☐ is required to sign this document and return \_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this administrative modification is to issue Task HQ06-02 "Review of Technical Impacts" and also to extend the period of performance for existing Task YM04-02A. Accordingly,

1. The attached task, HQ06-02, is being issued under contract clause H.20 "Ordering Procedure." The period of performance will be October 1, 2005 through November 30, 2005. Incremental FY06 funding will be provided as required.
2. The period of performance for Task YM04-02A is being extended, at no additional cost to the government, from September 30, 2005 to ~~March 31, 2006~~ **June 15, 2006. NRP 9/26/05**

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
		<b>Birdie Hamilton -Ray Contracting Officer</b>	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY  (Signature of Contracting Officer)	<b>9/23/05</b>

U.S. DEPARTMENT OF ENERGY TASK ORDER			
<b>CONTRACTOR NAME AND ADDRESS:</b>  Richard L. Toft, General Manager Booz-Allen & Hamilton, Inc. 1551 Hillshire Drive Las Vegas, NV 89134		<b>CONTRACT NUMBER:</b> DE-AC28-02RW12152  <b>CONTROL NUMBER:</b>  <b>TASK ORDER NUMBER:</b> HQ06-02	
<b>Sub Service Manager</b>  X: _____ Name: _____ Date: _____ Service Area: _____ 702-794-_____	<b>Sub Service Manager</b>  X: _____ Name: _____ Date: _____ Service Area: _____ 702-794-_____	<b>Service Manager</b>  X: <u><i>Gene E. Runkle</i></u> Name: <u>Gene E. Runkle</u> Date: <u>Sept 21, 2005</u> Service Area: <u>RW-1</u> Tele: <u>(702) 794-702-586-6973</u>	<b>Contracting Officer's Rep</b>  X: <u><i>Syed Bokhari</i></u> Name: <u>Syed Bokhari</u> Date: <u>9/21/05</u> Service Area: <u>All</u> Tele: <u>(202) 586-2285</u>
<b>TITLE OF TASK ORDER:</b> <u>Review of infiltration rate estimate Evaluation Report.</u>			
<b>DESCRIPTION OF WORK TO BE PERFORMED:</b> See attached			
<b>SCHEDULE OF PERFORMANCE/DELIVERABLES LIST AND DUE DATES:</b> SEE ATTACHED PAGES.			
<p>NOTE: For each deliverable required by this Task Order, the Contractor shall submit to the Contracting Officer (CO) and to the Contracting Officer's Representative (COR) a copy of the transmittal letter which evidences timely receipt of the deliverable by the Department of Energy. A separate deliverable entitled "Final Task Status Report" shall provide totals of the cost, fee, and hours expended under this Task Order, and shall be provided to the CO, COR, and Service Manager within three months after the completion date of this Task Order.</p>			
<b>PERIOD OF PERFORMANCE:</b> See Attached			
<b>THIS TASK ORDER IS ISSUED PURSUANT TO THE ORDERING PROCEDURES CLAUSE OF THE SUBJECT CONTRACT.</b>			
<p>THE CONTRACTOR SHALL NOT BE PAID FOR WORK PERFORMED OR COSTS INCURRED UNDER THIS TASK ORDER PRIOR TO THE DATE OF THE CO'S SIGNATURE BELOW. IN ADDITION, THE CONTRACTOR IS NOT AUTHORIZED TO PROCEED BEYOND THE PERFORMANCE PERIOD OF THIS TASK ORDER, NOR WILL THE CONTRACTOR BE PAID FOR ANY COSTS INCURRED BEYOND THIS PERIOD, UNLESS THIS TASK ORDER IS REVISED BY THE CONTRACTING OFFICER TO AUTHORIZE ADDITIONAL PERFORMANCE AND PAYMENT.</p>			
<u><i>Birdie V. Hamilton-Ray</i></u> SIGNATURE OF CONTRACTING OFFICER		<u>9/23/05</u> DATE	Birdie V. Hamilton-Ray TYPE NAME OF CONTRACTING OFFICER



## **STATEMENT OF WORK FOR REVIEW OF TECHNICAL IMPACTS ON THE YUCCA MOUNTAIN PROJECT OF ISSUES RAISED BY USGS EMAILS**

### **1.0 Background**

The Department of Energy (DOE) Office of Civilian Radioactive Waste Management (OCRWM) is preparing an application for eventual submittal to the Nuclear Regulatory Commission (NRC) for authorization to construct a repository for spent nuclear fuel and high-level radioactive waste at Yucca Mountain in Nevada. As part of the licensing process, NRC requires that DOE make available documentary material, as defined by NRC regulations, that could be used in the licensing process. This documentary material will be made available in electronic format known as the Licensing Support Network.

During activities associated with placing documents into the Licensing Support Network, Yucca Mountain Project staff identified some e-mails that appeared to indicate a lack of compliance with Yucca Mountain Project Quality Assurance requirements. The e-mails, exchanged in the 1998 to 2004 timeframe by a small number of U.S. Geological Survey (USGS) employees, pertained to work in development of site-specific net water infiltration rate estimates for present and future climate states. The content of these e-mails raises potentially serious issues related to this scientific work and subsequent technical work products that used the net infiltration rate estimates. The most important technical work produced by the USGS employees is nine infiltration maps, issued in June 2000, that were calculated using the infiltration model.

Upon discovery of the e-mails, DOE committed to evaluate the technical and programmatic (i.e., quality assurance) impacts of the issues raised by the e-mails on the Site Recommendation, draft License Application, and Key Technical Issue agreements. To support this evaluation, OCRWM is undertaking an expert review of the technical basis that underlies these products.

### **2.0 Objective**

The objective of this task is to obtain a review of the technical basis related to net water infiltration and climate modeling work performed by USGS employees, to support a determination of whether that technical basis is sound and appropriate for use in support of Key Technical Issue agreements, Site Recommendation, and the draft License Application.

### **3.0 Scope of Work**

The contractor will engage the services of recognized experts in hydrology and infiltration as reviewers. These reviewers will apply their expertise in hydrology and infiltration to evaluate the technical basis related to net water infiltration and climate modeling work and the resulting infiltration rate estimates developed by USGS employees. The starting point for this work is the draft report, *Evaluation of Technical*

*Impact on the Yucca Mountain Project from Issues Raised by E-Mails of Former Project Participants*, September 2005. The reviewers will determine whether the technical basis is (a) credible and complete on its face, (b) reasonable when compared to data identified in the draft report as corroborating data, (c) consistent with statements by external parties (e.g., Nuclear Waste Technical Review Board and peer reviews as identified in the draft report), and (d) supportive of a reliable and credible estimate of infiltration for a repository in an arid environment. During this effort, the reviewers will generally follow the approach defined in NUREG-1298 for qualification of existing data.

Work will be accomplished primarily through review of the relevant documentation. Orientation and information-gathering meetings in Washington, DC and Las Vegas, NV will be conducted.

The contractor will develop a report on the topics detailed above, integrating the inputs of the reviewers and communicating with them to address any discrepancies. The report is not a consensus document but may reflect the different perspectives of the reviewers ensuring that the technical basis is fully addressed. The contractor will deliver a draft report for OCRWM review and work with OCRWM and the external reviewers as necessary to address questions and develop the final report.

#### **4.0 Special Qualifications**

The reviewers must possess expert knowledge of hydrology and infiltration and must be able to provide a technically sound evaluation of the technical basis of the infiltration rate estimates.